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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/627,090

07/24/2003

Veronica A. Nelson

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02/23/2005

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

VO, ANH T N

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/627,090

Applicant(s)

NELSON, VERONICA A.

Examiner

Anh T.N. Vo

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 21-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-5, 8-20 and 30 is/are rejected.
- 7) ☒ Claim(s) 6, 7 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/24/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election /Restriction

1. Applicant 's election without traverse of invention I in Paper filed on 1/10/2005 is acknowledged.
2. Claim 21-29 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to non-elected invention. Election was made **without** traverse in paper of 1/10/2005.

Claims 21-29 should be cancelled.

Information Disclosure Statement

The references cited on PTO 1449 have been considered.

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objection

Claim 31 is objected to in that "comprises configuring----- cartridges configures" on lines 2-3 should be deleted to avoid redundant words. Correction is required.

CLAIM REJECTIONS

Claim Rejections - 35 USC § 112

Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Appropriate correction or clarification is required.

In claim 2, it is not understood how the slurried suspension comprises a slurried suspension. The claims 3-4 remain is dependent from the above claims 2 and therefore is also considered indefinite

Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) The invention was described in a patent granted on an application for patent by another filed the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claims 1-4, 18 are rejected under 35 U.S.C. 102 (b) as being anticipated by Noolandi et al. (US Pat. 6,416,156).

Noolandi et al. disclose in Figures 2 and 33 a marking apparatus comprising:

- one or more print cartridges (28C, 28M, 28Y, 28K) configured to selectively eject generally fluidic material onto a media (38);
- wherein at least one print cartridge of the one or more print cartridges (28C, 28M, 28Y, 28K) is configured to eject a first generally fluidic material comprising a slurried suspension (column 3, lines 36-63);

- wherein the slurried suspension comprises a slurried suspension configured to form a photovoltaic cell (column 3, lines 36-44);
- wherein multiple print cartridges are configured to eject the slurried suspension, and wherein at least one of the multiple print cartridges is configured to eject a form of the slurried suspension that appears as a first color (28C) to an observer, and at least one different print cartridge of the multiple print cartridges is configured to eject a different form of the slurried suspension that appears as a second different color (28M) to an observer; and
- wherein each of the one or more print cartridges (28C, 28M, 28Y, 28K) is configured to eject the slurried suspension.

Claim 15 is rejected under 35 U.S.C. 102 (e) as being anticipated by Childers et al. (US Pat. 5,992,990).

Childers et al. disclose in Figures 1, 5 and 7 an ink delivery system comprising:

- a first set of firing nozzles (60) configured to eject a first fluid type (black ink); and
- a second set of firing nozzles (60) configured to eject a second different fluid type (yellow ink).

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 and 30 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Noolandi et al. (US Pat. 6,416,156) in view of Eberspacher et al. (US Pat. 6,268,014).

Noolandi et al. disclose the basic features of the claimed invention as stated above but do not disclose the slurried suspension comprises multi-phase mixed metal particles in a carrier solution.

Eberspacher et al. disclose in Figure 2 solar cell materials comprising source material 3 that is disposed on a substrate (4) including the slurried suspension 1 comprises multi-phase mixed metal particles in a carrier solution (column 10, lines 65-68 and column 11, lines 1-4).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Eberspacher et al in the Noolandi et al. marking apparatus for the purpose of using slurry spraying to deposit layers of multi-phase mixed-metal particles on suitable substrates.

Claims 8-20 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Childers et al. (US Pat. 5,992,990) in view of Noolandi et al. (US Pat. 6,416,156) and further in view of Du et al. (US Pat. 6,705,699).

Childers et al. disclose in Figures 1, 5 and 7 an ink delivery system comprising ink cartridges (18), each of the ink cartridge having a set of firing nozzles (60) configured to eject a fluid type (black ink, yellow ink, magenta ink, cyan ink).

However, Childers et al. do not disclose each set of firing nozzles having the diameter of less than about 25 micron and/or more than about 25 micron and/or of a range of about 10 to about 25 microns and/or of about 12 microns and/or of about 50 to about 100 microns and/or of the same orifice layer and/or different orifice layer.

Nevertheless, Noolandi et al. disclose in Figures 2 and 33 a marking apparatus comprising:

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- one or more print cartridges (28C, 28M, 28Y, 28K) configured to selectively eject generally fluidic material onto a media (38);
- wherein at least one print cartridge of the one or more print cartridges (28C, 28M, 28Y, 28K) is configured to eject a first generally fluidic material comprising a slurried suspension (column 3, lines 36-63); and
- firing nozzles a diameter that are in a range of less than about 25 micron and/or more than about 25 micron and/or of a range of about 10 to about 25 microns and/or of about 12 microns and/or of about 50 to about 100 microns (column 3, lines 15-17).

Furthermore, Du et al. disclose in Figures 4-5 a color print cartridge comprising each set of nozzles having the same orifice layer and/or different orifice layer (column 6, lines 44-47).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Noolandi et al and Du et al. et in the Childers et al. ink delivery system for the purpose of improving image solution.

Allowable Subject Matter

Claim 6 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. The claim is allowable over prior art of record because the prior art does not disclose a printing device comprising at least one print cartridge being configured to eject a second generally fluidic material that does not comprise a slurried suspension in the combination as claimed.

Claim 7 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. The claim is allowable over prior art of record because the prior art does not disclose a printing device comprising at least one print cartridge configured to eject a second generally fluidic material comprising solar cell conditioning agents in the combination as claimed.

Claim 30 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. The claim is allowable over prior art of record because the prior art does not disclose a method of a printing device comprising a step of configuring the printing device to receive one or more print cartridges to eject multi-phase mixed metal particles in a carrier solution, and one or more print cartridges configured to eject a fluidic ink that does not comprise multi-phase mixed metal particles in the combination as claimed.

CONCLUSION

Any comments considered necessarily by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Tuesday to Friday from 8:30 A.M. to 6:30 P.M..



ANH T.N. VO
PRIMARY EXAMINER

February 18, 2004